Doric Mini Cubes

The beam-splitters have been used in optics for many years. They are almost exclusively used with the parallel beam of light. They cannot be directly used with fiber optics since the light coming out of the fiber is diverging. The only way to make the beam-splitters usable with fiber optics is to collimate the light coming out of a fiber. However, this is a very messy proposition for photonics and biomedical professionals. In order to make the beam-splitting in the fiber-optics applications more user friendly, we have made the doric mini cube, that integrates the beam-splitting cube, the collimation lenses and the fiber-optic receptacles, all in a small and a relatively inexpensive package.

Intensity division

This mini cube contains a beam splitter that separates a beam in two output beams with equal power. This cube can only be used as a splitter. Thus, the patch cord that carries the input beam is always connected to the side with one receptacle, while the 2 receptacles on the other side deliver the output beams.

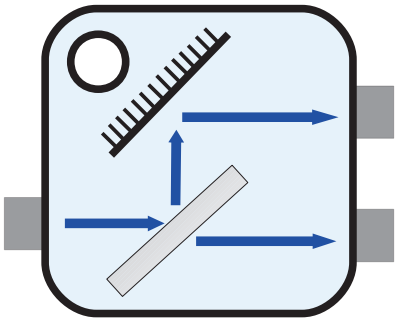
The receptacles can be chosen between FC, SMA or M3. The output receptacles are typically of the same type but can be different if needed.

Mini cube
Intensity division

ORDERING CODE : DMC_1x2i_□□□-2□□□

Input receptacle code
FC, SMA, M3

Output receptacle code
FC, SMA, M3



Mini cube – Intensity division

Wavelength division

The wavelength division mini cube contains a dichroic mirror that can combine or separate beams, providing their respective wavelength bandwidths are not overlapping. As a consequence, this mini cube can be used as a splitter, a combiner or it can be used to separate excitation and fluorescence wavelengths.

This version of mini cube has no other filters except a dichroic mirror. For maximum precision of sensitive fluorescence measurements, doric mini cube needs to be supplemented externally with narrow band filters for excitation channel and for fluorescent signal channel. This can be done by connecting *Connectorized U-Bracket* to respective channels. This approach provides the flexibility to experiment with different filters but it does introduce some losses. If you need the specific filters inside the box, look under *Fluorescence Mini Cube*.

Mini cube
(example with
λ1=473nm - λ2=589nm)

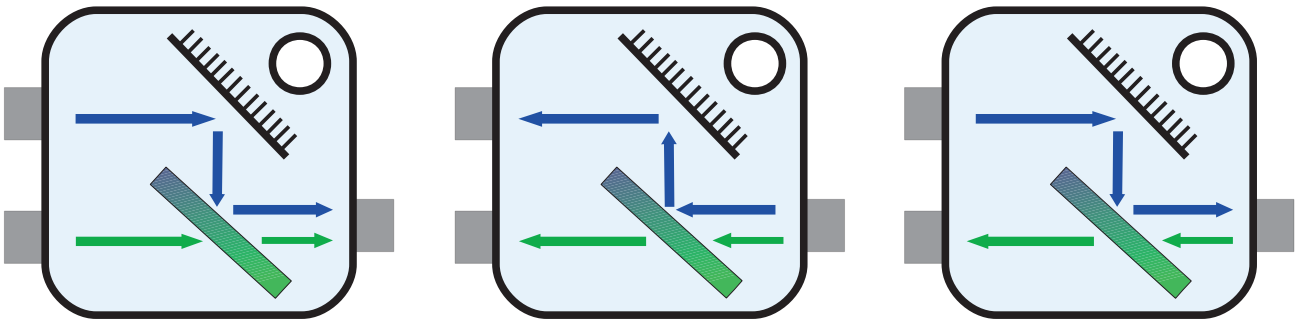
ORDERING CODE : DMC_1x2w_□□□/□□□_□□□-2□□□

Wavelength 1 (nm)

Wavelength 2 (nm)

Input receptacle code
FC, SMA, M3

Output receptacle code
FC, SMA, M3



Used as a combiner *Used as a splitter* *Used for fluorescence*

Mini cube – Wavelength division

Fluorescence mini cube

For more precise fluorescence measurements we have devised a cube that incorporates dichroic splitter, the narrow band pass filters for excitation light and filter for fluorescent spectrum, all within the same cube. The LED sources typically have broader spectrum and filtering the input with narrow band filter is highly recommended. The same applies to fluorescence detection channel where the appropriate longpass filter greatly improves signal to noise ratio.

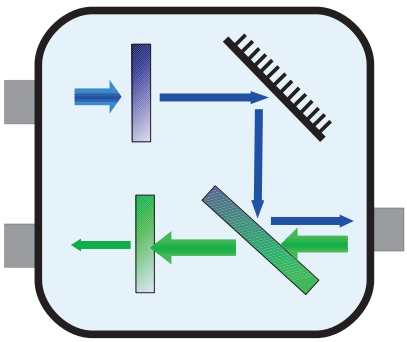
Mini cube for fluorescence

ORDERING CODE : FMC_2x1w_□□□/□□□-□□□_□□□-2□□□

Excitation Wavelength (nm)

Fluorescent Wavelength Range (nm-nm)
Minimum – Maximum

Receptacle code
FC, SMA, M3



Fluorescence mini cube